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**JAN 22 1996**

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

**FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY**

**In the Matter of** )  
 )  
**Advanced Television Systems** )  
**and Their Impact Upon the** )  
**Existing Television Broadcast** )  
**Service** )

**MM Docket No. 87-268**

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**REPLY COMMENTS OF THE DIGITAL HDTV GRAND ALLIANCE**

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**January 22, 1996**

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**REPLY COMMENTS OF THE DIGITAL HDTV GRAND ALLIANCE**

**I. Introduction**

The undersigned members of the *digital* HDTV Grand Alliance ("Grand Alliance") hereby reply to the comments filed on November 20, 1995 in response the Commission's Fourth Further Notice of Proposed Rule Making and Third Notice of Inquiry ("Notice") in its Advanced Television ("ATV") proceeding.

In our initial comments, the Grand Alliance endorsed the Commission's objectives in this proceeding to preserve and promote free over-the-air television and to ensure the most efficient use of the spectrum, including recapturing as much spectrum as possible in contiguous blocks after the transition to ATV. We argued strongly that both of these fundamental objectives would be best served by the rapid adoption of ATV, especially HDTV, and offered a variety of proposals whereby the Commission could accelerate the conversion to high-definition television.

A careful review of the extensive comments filed in response to the Notice reveals a remarkable degree of consensus endorsing the Commission's objectives and the basic approach of hastening the transition to ATV and HDTV, and widespread support for proposals made by the Grand Alliance and many others to accelerate the transition. A

minority of commenters raises a variety of objections to this approach, based on the mistaken assumption -- proven wrong by the preponderance of comments -- that broadcasters and the viewing public are not committed to and interested in the quantum improvements offered by HDTV.

With widespread support for its policies, and with unmatched digital video compression and transmission technology firmly in hand,<sup>1</sup> the Commission stands on the threshold of enabling the deployment of the world's highest quality terrestrial broadcast service -- a quantum improvement in the technical quality of entertainment television that also unlocks the door to a limitless variety of ancillary and supplementary services that will improve the National Information Infrastructure.

These Reply Comments respond to the key issues raised by the parties to this proceeding and make recommendations by which the Commission can accomplish its objectives and fulfill its obligations.

## **II. The ATV channel should be used predominantly for free over-the-air television with HDTV as the centerpiece application.**

A remarkable consensus is evident from the comments that HDTV should be the centerpiece of broadcasters' use of the ATV channel and that broadcasters are committed to upgrading the technical quality of their service to digital HDTV. Most important is the consensus position filed by 96 broadcast-related entities ("The Broadcasters"), saying that

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<sup>1</sup>On November 28, 1995 the Commission's Advisory Committee on Advanced Television Service ("the Advisory Committee") voted without objection to recommend to the Commission a digital television transmission standard based on the *digital* Grand Alliance HDTV system. In comments in this proceeding, a number of parties extol the virtues of the Grand Alliance system and the Advisory Committee process. *See, e.g.,* Comments of 96 broadcast-related entities at 11 ("The Grand Alliance transmission system . . . represents eight years of intensive technological development and the best efforts of the country's finest equipment manufacturers and engineers . . .") ("Broadcaster Comments"); Texas Instruments Comments at 2 ("the world's preeminent digital video transmission technology"); Statement of Richard E. Wiley, Chairman of the Advisory Committee, FCC *En Banc* Hearing on ATV, December 12, 1995, at 1 ("the world's best advanced television technology"); Statement of Joseph A. Flaherty, CBS, *En Banc* Hearing, at 3 ("the most advanced television system ever conceived"); Capital Cities/ABC Comments at 4 and Hitachi America Comments at 1 (offers a position of world leadership).

HDTV should be the centerpiece of the next generation of free over-the-air TV, and noting the voluntary commitments of many broadcast organizations to offer HDTV as the primary ATV service (Broadcaster Comments at 17). CBS calls HDTV the cornerstone of the next generation of broadcast services (CBS Comments at 7), Capital Cities/ABC ("ABC") reiterates its strong public commitment to offer HDTV from the outset (ABC Comments at 4-7), and NBC proclaims its intention to lead the industry in the introduction of digital TV and HDTV in particular (NBC Comments at 1-2). Edward T. Reilly in his *En Banc* Hearing testimony (at 2), representing the Association of Maximum Service Television ("MSTV"), states that broadcasters are committed to programming substantial amounts of the broadcast day, including prime time, in HDTV, and that broadcasters will provide the mass market for the HDTV platform that will become the world standard. Pulitzer Broadcasting reiterates its commitment to providing HDTV (at 2), and Joseph Flaherty, CBS, in his *En Banc* Hearing testimony (at 1-2) notes that HDTV will come with or without terrestrial broadcasters, but HDTV is essential if free over-the-air television broadcasters are to remain competitive with their subscription-based competitors.<sup>2</sup>

The Association of America's Public Television Stations and the Public Broadcasting Service ("Public Television") also stress the importance of HDTV, articulating a detailed and exciting vision for using HDTV to improve their programs and services. "Public Television's most widely recognized, nationally distributed programs would be spectacular if broadcast in HDTV . . . would take on new dimensions with the advent of HDTV . . . would give home audiences the feel and impact of live performances . . . and would bring the best in world culture and education to audiences of all ages." (Public Television Comments at *ii* and 4-5)

Two of the most articulate and persuasive commenters are New World Television and Home Box Office ("HBO"), both calling on the Commission to return its focus to upgrading

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<sup>2</sup> Thus, the speculative claim by the Alliance for Community Media ("ACM") -- that the postponement of an announcement of an experimental HDTV station indicates the infirmity of HDTV -- is entirely wrong. In fact, the delay is due to a number of broadcasters in several different cities vying for the opportunity to use limited prototype equipment to get a head start in implementing HDTV.

the nation's free over-the-air television service to HDTV. New World believes marginal issues have overtaken fundamental issues, leading to calls for spectrum auctions and false claims that broadcasters have no interest in HDTV. New World views free over-the-air TV as an incredibly successful social contract that should be renewed, not renegotiated. "Television broadcasting -- specifically high definition television broadcasting -- should remain the core service provided on the television broadcast spectrum, and other uses of that spectrum should be considered merely peripheral business and regulatory issues." (New World Comments at *ii-iii*) New World argues convincingly that adopting HDTV as the ATV software standard will promote consumer investment in sets, will solve *Ashbacker* concerns, will silence critics of a "digital spectrum grab," and will facilitate the rapid recovery of spectrum. (New World Comments at *iv* and 14)

HBO urges the Commission not to "lose sight of what has long been its fundamental goal -- to foster the development and deployment of HDTV -- which will result in extraordinary improvement in free, over-the-air broadcasting and other television distribution systems used by consumers." HBO explains how broadcasters are uniquely situated to lead the way in an overall industry conversion to HDTV, how the rapid deployment of HDTV will create a galvanizing effect on the progress toward digital video for all video distribution media, and how HDTV will give it the potential to improve vastly the quality of its own product, making its services more attractive to subscribers. (HBO Comments at 2-3)

Broadcasters and programmers are by no means alone in stressing the importance of HDTV. Texas Instruments (at 4) notes that the appeal of true HDTV is well recognized. The National Cable Television Association ("NCTA") (at 5) states that the public will benefit from true HDTV. Television and other equipment manufacturers, including the Electronic Industries Association and the Advanced Television Committee ("EIA/ATV"), General Instrument, Thomson Consumer Electronics ("Thomson"), and Zenith Electronics ("Zenith") all echo the strong recommendation in the Grand Alliance Comments that HDTV be maintained as the centerpiece application of the ATV channel, and the clear warning that

broadcasters will not be able to compete against other media in the years and decades to come if they and the Commission do not take advantage of this only opportunity to upgrade the technical quality of their service to high-definition.<sup>3</sup>

The National Association of Broadcasters ("NAB") states that HDTV will be a significant, even dominant, element of the strategy of most broadcasters, and that broadcasters most certainly will offer full HDTV, irrespective of government mandates. (NAB Comments at 2, 4) NAB hedges, however, stating that the ultimate value to consumers is unknown, and expresses concern that while HDTV offers an outstanding quality improvement, the initial cost of receivers may be too high for rapid set sales, and that a slow acceptance rate for HDTV could allow other ATV applications to attract customers. (NAB Comments at 3)

NAB's concerns regarding the prices of HDTV receivers are unfounded. First and foremost, the consumer electronics equipment manufacturers -- both Grand Alliance members and others -- whose businesses rely on developing products that customers want at prices they can afford, are convinced that HDTV presents an important business opportunity that will have wide consumer appeal. Two dozen or more firms have collectively already bet several hundred million dollars and many hundreds of person-years on the development of HDTV in the United States, based on their research and knowledge of consumer behavior and the consumer electronics industry.<sup>4</sup>

Moreover, in his *En Banc* Hearing testimony and written statement, Bruce M. Allan, representing Thomson, the largest television manufacturer in the United States, and also representing EIA, drew upon Thomson's highly successful experience with the introduction of digital Direct Satellite Service and a recent proprietary consumer research study funded by a

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<sup>3</sup>See EIA/ATV Comments at ii and 4, General Instrument Comments at 4, Thomson Comments at 1 and 4, Zenith Comments at 2 and 6, and Grand Alliance Comments at i, 1-4. See also Statement of James E. Carnes, Grand Alliance, *En Banc* Hearing, at i-ii, 4, and Letter of Tony P. Nuspl (abandoning HDTV would be contrary to the public interest and would condemn broadcasting to be an inferior second class service).

<sup>4</sup>Indeed, evidently one unnamed consumer electronics manufacturer--not a member of the Grand Alliance--has built and successfully tested a prototype HDTV receiver based on the ATV standard recommended to the Commission by the Advisory Committee.



group of consumer electronics and integrated circuit manufacturers, to demonstrate convincingly that consumers are strongly attracted to the quantum picture quality improvements offered by HDTV and that they are willing to pay substantial premiums for HDTV receivers. He also drew upon the Thomson/RCA experience to estimate the premiums that are likely to be required for HDTV receivers over today's large-screen sets, showing how they are reasonable for early adopters and will fall rapidly as higher sales volumes permit manufacturers to drive costs out of their products. Indeed, it is not the initial cost of ATV receivers that will be the most critical factor in consumer acceptance of HDTV, but the availability of substantial amounts of HDTV programming.<sup>5,6</sup>

The Association of Independent Television Stations ("INTV") also professes to be fully committed to HDTV, saying that "HDTV will be an attractive service to the public and, as such, an integral part of their ATV operations." (INTV at 10) However, in sharp contrast to the positions of almost all other broadcasters, INTV distances itself from every specific policy that would promote HDTV, e.g., it opposes the imposition of any minimum HDTV requirement or any simulcast requirements at all. (INTV at 10-12) Indeed, INTV offers only the most meager commitment -- to provide one free over-the-air program service. (INTV at 13) Furthermore, in explaining how it might use the ATV channel, INTV reveals not only a

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<sup>5</sup>Statement of Bruce M. Allan, Thomson, *En Banc* Hearing, at 5. After viewing HDTV, consumers in the research study on average expressed a willingness to pay \$1,200 to upgrade their main television to HDTV. In all of the consumer electronics research of which Thomson is aware, this is the highest premium consumers have ever expressed a willingness to pay. Thomson estimates that retail price premiums for HDTV sets over large-screen NTSC sets of the same height will be about \$1,000 to \$1,500 at the beginning of the transition, will fall to about \$500 to \$750 within five years, and by the tenth year could be as low as \$250 to \$350 -- and even less for small-screen receivers.

<sup>6</sup>Other parties note the appeal to consumers of HDTV. See, e.g., New World Comments at 13 (the dramatic improvement is one consumers can see immediately and one they will likely pay to get); Letter of John Saviano (HDTV makes a huge difference in home video, consumers will embrace HDTV); and National Consumers League Comments at 1 and in an attached position paper (seconding conclusions of recent research finding that consumers want HDTV, based in part on Grand Alliance HDTV demonstrations to 250 delegates at the 1995 NCL Conference on Technology and Telecommunications). Motorola speaks a bit disingenuously in suggesting that the eight years it has taken for broadcasters to develop an ATV standard suggests a lack of market demand for HDTV (Motorola Comments at 5). Perhaps they've forgotten that it took thirteen years for the mobile radio industry to gain approval of a transmission standard for cellular radio.

bias against HDTV, but a bias against free SDTV as well, and an intention to use the ATV spectrum substantially or even primarily for pay services.

Full flexibility would be preserved. A station transmitting several SDTV services on its ATV channel, for example, would be required to program one of those services as a free, broadcast channel. The other channels might or might not be used for free, broadcast programming. (footnote omitted) However, the core service of free broadcast television would be maintained.

. . . New free broadcast services on the ATV channel are unlikely to increase station revenues. The same audience (and revenue) pie simply will be divided more ways. However, by providing new nonbroadcast services (video, data, or otherwise), stations may tap new revenue sources. (INTV at 13)

In like manner, but without even the lip service to HDTV that INTV provides, three individual broadcasters express similar opinions, so discordant with the preponderant views and commitments of broadcasters. Busse Broadcasting ("Busse"), Pacific FM, and Christian Communications of Chicagoland ("WCFC") each claim that broadcasters must offer multiple digital channels to compete, make virtually no mention of HDTV, and only offer to provide a core service of at least one free over-the-air channel, urging no other rigid requirements.<sup>7</sup>

This minority of broadcasters mistakenly focuses on multicast SDTV as the salvation of terrestrial broadcasting, but they are immediately forced to conclude that if such a business makes any economic sense at all, it would necessarily be primarily a pay service, since dividing the free TV viewing audience among multiple programs would only splinter the audience and would mean multiplying expenses without increasing revenue. *But ATV is not about pay TV.* If ATV primarily meant the provision of multiple channels of pay television, complaints of a "spectrum giveaway" and calls for auctions of the ATV spectrum would be justified and would multiply. But as the Commission has made clear and as most broadcasters understand, ATV is about upgrading the technical quality of terrestrial broadcasting so that free over-the-

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<sup>7</sup>See Busse Comments at 1-2, Pacific FM Comments at 1-2, WCFC Comments at 1-2, 6.

air television does not become a noncompetitive second-class service in the years and decades to come, and in the process using the unprecedented flexibility of the proposed digital transmission standard to develop innovative and useful applications that supplement this primary purpose.

As discussed in the sections that follow, and as pointed out in the comments of many other parties to this proceeding, most of the objections raised to the Commission's proposals flow from a misunderstanding of the Commission's objectives and of the intentions of broadcasters. These objections fall away if the Commission adopts policies to ensure that the predominant use of the ATV channel is for free over-the-air television with HDTV as the primary application.<sup>8</sup> Without such assurances, however, the Commission's approach to lend broadcasters a second channel is not sustainable either as good policy or as a matter of law.

### **III. Initial eligibility for ATV licenses should be limited to existing broadcasters.**

As discussed in the Grand Alliance Comments (at 7), because the temporary assignment of an additional 6 MHz channel to each existing broadcaster will bring about the smoothest and most expeditious transition to digital HDTV, the Grand Alliance members wholeheartedly endorse the Commission's current plan to limit the initial eligibility for ATV licenses to existing broadcasters, as long as the ATV channel is used predominantly for free television with HDTV as the primary application. However, in the few unlikely cases where specific existing broadcasters are uninterested or unable to make the transition to ATV, including HDTV, within a reasonable transition period determined by the Commission, the

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<sup>8</sup>For instance, the claim by ACM (at *iii-iv*) that broadcasters have dramatically repudiated their claim that new spectrum is necessary for HDTV and are using blatant "bait and switch" tactics to acquire free spectrum worth billions, is demonstrably false for the great majority of broadcasters, and the Commission can dispose of such claims by adopting policies that promote the rapid transition to HDTV. Likewise, the Media Access Project, *et al* ("MAP") (at 18) is profoundly wrong in saying that few broadcasters seek to provide HDTV soon, if ever, and most are not interested in providing it at all, that there is little evidence that the American public wants or needs it, and that there is no indication that HDTV is important to the vitality of free over-the-air television. Similar statements by the Small Business Survival Committee ("SBSC") (at 1-2) are equally false.

ATV spectrum should be made available to new entrants who make a commitment to broadcast HDTV and other free digital television services.

This provision follows naturally as long as the Commission's principal goal remains to facilitate the ability of broadcasters to upgrade their existing free broadcast service to HDTV. Thus there is widespread support for this policy even beyond the broadcast community, but subject to conditions. For example, like the Grand Alliance, EIA/ATV (at *iii*) supports the policy if HDTV is the centerpiece. Ameritech (at 1) and NYNEX (at 3) concur, but only for the purposes of free over-the-air, high-definition broadcasts. The Personal Communications Industry Association ("PCIA") (at *iii*) endorses the policy only if the primary use of the channel is for free TV. HBO (at *i*) argues convincingly that "the original public interest justification for providing incumbent broadcasters with a second channel allotment, without competitive challenge, falls away if broadcasters are relieved of their obligation to lead the migration of the nation's television system to digital HDTV."

Here again, however, a chorus of complaints is raised by commenters who mistakenly assume that broadcasters have forsaken HDTV in favor of SDTV multicasting. Fairness in Accuracy and Reporting ("FAIR") states "We do not believe that the new spectrum space, an invaluable public resource, should simply be given away to the current analog broadcasters. There is no logical reason why each TV station owner should be given several more channels." (FAIR Comments at 1-2) Laboring under the same misconception, approximately 27 individuals (apparently motivated by FAIR to register their views) argue vehemently about "giving away the airwaves to those who already pollute them with nonsense."<sup>9</sup> Some express dismay that high-definition would be sacrificed in favor of multiple low-resolution programs, and under such circumstances most favor "assigning the new channels" to those who can best serve the public interest and provide much needed independence and diversity, saying that

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<sup>9</sup>Letter of Peter Altman.

otherwise, TV will become more vast, but still a wasteland.<sup>10</sup> Minority Media and Telecommunications Council adds to the chorus, arguing that giving licenses away to incumbents would be a "massive rip-off" of the American public, and that race conscious comparative hearings are the best means to foster diversity in ownership and viewpoints.<sup>11</sup>

Here again the course is clear: The Commission can eliminate the basis for these objections to its plan by reinforcing its commitment to free over-the-air television with HDTV as the centerpiece.

#### **IV. Broadcasters should be assigned full 6 MHz channels.**

The Grand Alliance and most other commenters agree that a full 6 MHz channel should be loaned to each existing full-power broadcaster for the purposes of converting to ATV, provided that HDTV is the primary use of the digital channel.<sup>12</sup> Broadcasters correctly point out that without a full 6 MHz channel, they could not provide HDTV and would be left with an inferior system that would quickly become obsolete.<sup>13</sup> Public Television (at 13) argues that allocating less than 6 MHz would retard the development of HDTV in the United States and cripple this country's leadership in digital technology.

In our Comments, the Grand Alliance stressed that HDTV is the only ATV application that requires a full 6 MHz and the only application that offers the kind of significant

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<sup>10</sup>See, e.g., Letter of John Saviano (horrified that the FCC might abandon HDTV in favor of many more low-definition channels, and urging the Commission to do everything possible to encourage the switch to HDTV); Letter of Chris Ford ("media heavies" want to use digital broadcasting advances to line their pockets rather than improve the picture quality of what viewers see, "schlockmeisters" shouldn't get four times as many channels); and Letter of Max J. Alvarez (spectrum giveaway is not the answer to the latest digital broadcasting development which has enabled four to six TV programs in the spectrum once reserved for a single HDTV channel).

<sup>11</sup>Statement of David Honig, *En Banc* Hearing, at 4-5.

<sup>12</sup>See, e.g., Comments of United Video Satellite ("UVTV") at 2; Thomson Comments at 5; Zenith Comments at 3; EIA/ATV Comments at 19. Section XIV of these Reply Comments briefly addresses the applicability of these policies to low-power television broadcasters.

<sup>13</sup>Broadcaster Comments at 10-11. See also, e.g., ABC Comments at 4; Statement of Edward T. Reilly, MSTV, *En Banc* Hearing, at 1; Statement of Joseph A. Flaherty, CBS, *En Banc* Hearing, at 2 (absolutely essential to get full range of options, including HDTV); Statement of James C. McKinney, Chairman, Advanced Television Systems Committee ("ATSC"), *En Banc* Hearing, at 1 (absolutely essential if free over-the-air television is to survive in the digital century about to begin).

improvements in picture quality to warrant lending each existing broadcaster a full 6 MHz of spectrum. The controversy generated by the mistaken beliefs of some parties that broadcasters are not committed to HDTV further convinces us that the Commission must require HDTV as the centerpiece. General Instrument (at 4) and NYNEX (at 5) reinforce this conclusion. HBO (at *ii*, 13) argues convincingly that without HDTV, the most that incumbent broadcasters are entitled to, without a competitive process, is a single SDTV channel.<sup>14,15</sup>

Again assuming an SDTV multicasting scenario, MAP (at *iii*, 7) advances several proposals for mechanisms whereby broadcasters and new entrants could share an ATV 6 MHz channel. MAP appears to recognize that such arrangements would preclude any HDTV, but argues that other benefits outweigh the public's interest in receiving HDTV. There is certainly no basis in the record of this proceeding for the radical restructuring of the broadcast industry

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<sup>14</sup>The Grand Alliance emphatically agrees with HBO that *Ashbacker* would preclude the Commission from awarding these valuable digital channels to broadcasters to use as they see fit, and that the Commission would indeed be creating a "new" service if the second channel could be used for a myriad of services without restriction. HBO goes too far, however, in suggesting that opening up the channel to any other use, including SDTV would invalidate the Commission's public interest rationale for loaning a second channel to existing broadcasters for the purpose of improving its existing service. As discussed *infra*, once the Commission ensures that the primary use of the channel will be for HDTV, broadcasters can and should be given wide latitude to offer ancillary and supplementary services, including SDTV.

<sup>15</sup>While HBO's argument is sound that existing broadcasters would be entitled to at most one SDTV channel if HDTV were not offered, it overstates the number of potential SDTV channels that could be awarded to new entrants. First, it would be inefficient to allocate spectrum in slices less than 6 MHz -- four 1.5 MHz channels cannot carry as many bits as a single 6 MHz channel, not to mention that a new system would have to be developed, because the Grand Alliance design is strictly a 6 MHz system. Second, even if multiple SDTV broadcasters shared the bit stream available over a 6 MHz channel, the same program carrying capacity could not be obtained, because broadcasters would have practical difficulty taking advantage of statistical multiplexing between various programs offered by different providers (one program uses more bits when another needs fewer). Multiple programmers cannot share the same broadcast channel or bit stream without substantial efficiency losses. Finally, it's too simplistic to say that four SDTV programs within a 6 MHz channel is a conservative estimate of what is achievable today with video compression. As the Grand Alliance demonstrated at the December 12, 1995 *En Banc* Hearing, the number of SDTV programs is highly dependent on the nature of the material and the quality that is demanded. For example, with live-action sporting events, a single provider could probably only carry two simultaneous SDTV programs with reliably good quality, but for other live video applications up to four simultaneous programs could probably be carried, and if the material were movies or other programs originally produced in 24 frame per second film, up to six simultaneous programs might be possible (but six separate providers could not broadcast the same programs). For many of the same reasons, MAP's various proposals (at 7-10) for splitting up the capacity of an ATV channel suffer practical drawbacks, and ACM (at 25) completely misunderstands ATV spectrum requirements in making the erroneous claim that 400 MHz can support either 66 full-power television stations or 400 separately programmed NTSC-quality digital signals in a given locality.

proposed by MAP and others. Any arguable benefits of these approaches for promoting diversity of voices would be offset by the certain knowledge that free over-the-air broadcasting -- if it survived at all economically -- would be relegated to a second-class service in terms of technical quality by precluding the fundamental technical improvements that have been the Commission's goal throughout this proceeding.

**V. The Commission should require broadcasters to provide a minimum amount of HDTV on their ATV spectrum.**

To give force to the legal and policy basis for limiting initial eligibility to broadcasters, it is vital that the Commission require broadcasters to offer minimum amounts of HDTV programming over the ATV channel. Because most commenters recognize this necessity, there is widespread support for such a requirement.

The Broadcasters (at 17) express their desire that the public have the opportunity to view HDTV as the centerpiece of the next generation of free over-the-air TV, and recognize the value of a specific commitment.<sup>16</sup> They state that if the Commission decides to require minimums, an annual number of hours averaging no more than five hours per week would be appropriate, possibly subject to change later. NBC (at 8) urges the Commission to adopt such a requirement initially, stressing that the annual nature of the rule would allow broadcasters to fulfill it through multi-hour major programming events. CBS (at 7) endorses the imposition of a requirement "for a reasonable minimum amount of HDTV-quality programming." Fearing a piecemeal roll out of HDTV, ABC (at 6) urges a requirement initially of at least five hours per week, substantially in prime time or for other large audience programs like sporting events. Golden Orange (at 2) endorses a minimum HDTV requirement, saying it's the only way to motivate consumers to purchase receivers. James C. McKinney, Chairman of the Advanced

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<sup>16</sup>The Broadcasters voice some concern that initially virtually the only existing material originally produced in HDTV quality is 35 mm film. (Broadcaster Comments at 19) They fail to point out that virtually all motion pictures as well as 70% or more of television prime time programming is produced in 35 mm film. Thus, there will be no shortage of HDTV program material from the first day of the transition. *See, also* CBS Comments at 7.

Television Systems Committee ("ATSC"), in his *En Banc* Hearing statement said that broadcasters have given the Commission a gift -- a virtually unanimous filing supporting some minimum level of HDTV broadcasts -- and the Commission should accept it.

Some broadcasters, including some who are highly committed to HDTV, do not endorse minimum HDTV requirements. Public Television (at 18-19) argues that broadcasters' need to stay competitive with other video services means the Commission can rely on them to provide a minimum amount of HDTV programming voluntarily, and urges against imposing a minimum HDTV requirement, at least during the early years of the transition. NAB (at 1-2) does not support a minimum HDTV requirement, saying a fixed rule could delay the transition and the return of spectrum. Stating that independent broadcasters rely more on syndicated and local programming which is less likely to be available in high-definition initially,<sup>17</sup> INTV (at 4) argues that any requirement is superfluous and should be adopted later, if at all. Busse, Pacific FM and WCFC are focused on multicasting SDTV and don't even mention the issue.

Many other parties support minimum HDTV requirements, claiming that such requirements will ensure early availability of HDTV programming, will facilitate a fair market test of HDTV's appeal, will provide the improvements that will motivate consumers to invest in digital television, will help consumers understand that HDTV is the paramount goal, and will assure that broadcasters making early investments are not cost-disadvantaged.<sup>18</sup> New World (at 11) calls for phased-in, full-time simulcasting of HDTV, arguing that ensuring an adequate supply of HDTV programming is the best way to drive ATV set penetration, and that such a policy will help silence critics who view the ATV transition as a "spectrum grab" and will greatly expedite the return of NTSC spectrum for other uses.

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<sup>17</sup>Again, INTV's concerns that inadequate HDTV programming will be available are misplaced. Much of the syndicated programming INTV mentions was originally shown in network prime time, was produced in 35 mm film, and can easily be transferred to HDTV.

<sup>18</sup>See, e.g., National Consumers League Comments at 4, IBEW/IUE (two labor unions) Comments at 6, Zenith Comments at 3, Thomson Comments at 4, General Instrument Comments at 5, Letter of Tony P. Nuspi, Letter of John Saviano.



NYNEX (at 4), saying the Commission's inquiry itself is cause for concern, strongly argues for minimum HDTV requirements, urging that the specific requirement at least include the daily prime time hours. HBO (at 14) urges that if the FCC permits flexible use at all, it must establish strict requirements for substantial amounts of HDTV programming during popular day parts, saying that consumers won't value what they can't see, and that it's absolutely critical for the Commission to create an environment for manufacturers to produce HDTV receivers in volume. In his *En Banc* Hearing statement (at 7), Edward Grebow of TELE-TV supports minimum HDTV requirements, saying this will assure technical excellence in broadcasting service, stimulate the market for HDTV digital sets, and avoid confusion between SDTV and HDTV standards.

EIA/ATV (at *ii*, 5-7) supports a requirement for a substantial and ever-increasing amount of HDTV programming, including some in prime time hours and some "showcase" programming. Motorola (at 11) goes even further, urging at least eight hours of free, non-subscription HDTV programming per day, with all prime time programming in high-definition.<sup>19</sup>

In light of these arguments, the Grand Alliance is more convinced than ever that it is absolutely essential for the Commission to require minimum amounts of HDTV programming to be broadcast over the ATV channel. Although we favor substantial flexibility for broadcasters, as a matter of law, the Commission's decision to limit initial eligibility to existing broadcasters will not withstand judicial review if the Commission does not impose requirements to ensure that the second channel will, in fact, be used by broadcasters primarily for a significant technical upgrading of their free over-the-air television service. We repeat it,

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<sup>19</sup>Other parties also address this issue. The Information Technology Industry Council ("ITI") (at 5) endorses some minimum amount of HDTV per day, including prime time, while Microsoft (at 7) opposes a requirement, urging the Commission to give broadcasters maximum flexibility. Skeptical of broadcasters' interest in HDTV, CATA (at 3) states there will only be HDTV if the FCC decides it's in the public interest and reserves the spectrum for its exclusive use. SBSC (at 5) opposes HDTV requirements, urging auctions of the ATV spectrum instead. MAP (at *iv*) sees no good reason to mandate HDTV since it doesn't increase the number of voices in our democracy.

because it is key: the transition channel must be used predominantly for free over-the-air television with HDTV as the centerpiece, or primary, application. By reaffirming this broad policy objective, and by adopting specific requirements such as minimum HDTV requirements to give this policy force, the Commission can dispel most of the controversy that threatens its eight-year-old policy and program to upgrade the nation's broadcast television infrastructure.

Furthermore, we believe an annual minimum HDTV requirement averaging five hours per week is inadequate, and reiterate the specific proposal we made in our Comments (at 4-5) that broadcasters be required to offer a *weekly* minimum of 25 hours of HDTV programming, with 15 of these hours offered in prime time or weekend afternoons. Programming needs to be *consistently* available to consumers to motivate them to invest in digital HDTV receivers. An annual requirement which could be met via a few multi-hour programs or special events would not be adequate either to facilitate the adoption of HDTV or legally to justify awarding the conversion channels to existing broadcasters.

Requiring HDTV will reaffirm the *quid pro quo* inherent in the Commission's ATV implementation policy: in return for the temporary loan of a full 6 MHz channel, broadcasters will lead the way in upgrading the nation's television infrastructure to HDTV. By requiring HDTV broadcasts, the Commission will ensure that broadcasters follow through on their commitment to offer HDTV as the primary application of the ATV channel, and will clearly demonstrate that the decision to lend existing broadcasters each a full 6 MHz transition channel is a sound policy that is in the public interest and legally defensible. Moreover, by thus ensuring that HDTV remains the centerpiece application of ATV, the Commission will establish a high ceiling for the future technological evolution of digital television, and will promote a more rapid transition to ATV and an earlier recapture of valuable NTSC spectrum.

#### **VI. The Commission should permit flexible use of the ATV channel.**

No one is more enthused than the Grand Alliance about the ability of the proposed ATV standard to support new and innovative ancillary and supplementary services, in addition

to HDTV, that will help to improve the National Information Infrastructure ("NII") and to meet pressing needs in our society. In our Comments (at 2-6) and in the *En Banc* Hearing statement of James E. Carnes (at 2-7) we described in detail the unprecedented flexibility of the digital, packetized Grand Alliance system and the benefits it can provide, and urged the Commission to give broadcasters wide latitude in exploiting this flexibility, once the Commission assured that the ATV channel would be used predominantly for free over-the-air television with HDTV as the primary application.

This is the most controversial issue in the Notice, especially as it relates to the relative roles of SDTV and HDTV, and a thoughtful reading of the comments demonstrates conclusively the wisdom of our recommendation. Most commenters, including broadcasters who reflect the vast majority of overall television viewer-hours, support the balanced approach we advocate. A minority of broadcasters, however, has mistakenly assumed that SDTV multicasting is the future of broadcast television, and offered the most meager commitments to free over-the-air television, engendering claims of a "spectrum grab" and calls for auctions of the ATV spectrum. This same misguided focus of a few broadcasters on multicast SDTV, amplified by incomplete or erroneous reports in the press, has created a serious threat to the Commission's entire eight-year effort to upgrade the nation's broadcast television infrastructure, right when the heroic efforts of government and industry alike are about to bear fruit. And now, in an understandable overreaction to this threat, other commenters urge the Commission to go too far, and to impose unnecessary restrictions on use of the channel which would diminish the ability of broadcasters to contribute toward improving the NII. Only by reiterating and giving force to this central policy -- substantial flexibility *after* assuring predominant use for free television with HDTV as the centerpiece -- can the Commission dispel the controversy and reap the benefits of this fertile digital technology for the American public.

The Broadcasters (at 22-24) explain their consensus view that the market and their own expertise will ensure that the primary use of the ATV channel will be to provide free,

universal over-the-air and state-of-the-art television to the public, pointing out that ancillary services have never assumed a very large place in broadcasters' business plans compared to the core business of broad appeal television programming. Saying it's far too early to know what other uses will be, how remunerative they might be or whether to restrict them, they encourage the Commission to see what the market does and then adopt limitations if necessary.<sup>20</sup> The Broadcasters oppose any restrictions on supplemental services, except the restrictions contained in proposed legislation such as the requirement that they pay fees for spectrum used to provide subscription or other pay services.<sup>21</sup> As they did regarding HDTV, Public Television provides an exciting vision of beneficial lifelong learning services (using multiplexed SDTV programs) and ancillary nonbroadcast services they could provide over the ATV channel.<sup>22</sup> Golden Orange (at 2) supports a minimum HDTV requirement, and urges the Commission to permit ancillary services that do not interfere with the primary HDTV requirement.<sup>23</sup>

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<sup>20</sup>See also, Statement of Neil Braun, NBC, *En Banc* Hearing, at 2, (broadcasters will succeed or fail based on the main (HDTV) broadcasting service, not supplemental services).

<sup>21</sup>Public Television agrees, and says that in implementing such legislation the Commission should assume that ancillary services do not interfere with the broadcast use of the spectrum as long as the licensee provides at least one SDTV or HDTV broadcast service during normal operating hours. (Public Television Comments at 21, footnote 34) This criterion would only be acceptable if HDTV minimums were met and other provisions applied to ensure that the *predominant* use of the channel was for free television service.

<sup>22</sup>In his *En Banc* Hearing statement (at 2-4), James C. McKinney of ATSC also offers an array of examples of data services that could be offered in addition to HDTV, and in his statement (at 2), John D. Abel of Broadcast Partners points out that digital broadcasting is the only medium in the digital revolution that is proposing to provide major digital services for free.

<sup>23</sup>Golden Orange is uncomfortable with stations providing non-broadcast or non-TV subscription services, saying over-the-air access to free TV is not worth compromising simply because the technology makes it possible, but subscription TV services should be permitted especially for multiple SDTV signals intended to provide programming to displaced LPTV, minority and non-English speaking communities. Golden Orange asks for a clarification of what mix of HDTV, SDTV and other services can be provided over the ATV channel. (Golden Orange Comments at 2) In our Comments (at 2-6) we described the flexible capabilities of the Grand Alliance system. The mix of HDTV and SDTV services that can be carried over a 6 MHz terrestrial channel is highly dependent on the particular program material. Generally, it will require the full channel to carry a live-action sports event in HDTV, although a host of ancillary data services can also be carried simultaneously by making second-by-second opportunistic use of available channel capacity. And although Tele-Communications, Inc. ("TCI") (at 18) says that a movie transmitted in HDTV format would take the entire 6 MHz bandwidth, we believe that for material originally produced in film, including movies and most prime time programming, it will generally be possible to carry two HDTV programs, or one HDTV program plus additional SDTV programs, simultaneously over the channel. As discussed *supra*, the quantity of SDTV programs that could be carried simultaneously depends on the type of programming and the desired quality of

In sharp contrast to the prevalent view of broadcasters, INTV (at 13) argues for full flexibility, saying it's very important for obtaining new revenues. While saying that "free broadcast service should remain the heart of a station's ATV service," INTV urges the Commission to require only that stations provide "a free, broadcast program service on their ATV facilities". Clearly contemplating multicast SDTV, they note that new free broadcast services are unlikely to increase station revenues, while nonbroadcast (read "pay") services (video, data, or otherwise) may tap new revenue sources.<sup>24</sup>

In the same vein, WCFC (at 2) states that the public benefits of multiple program streams could be immense, and that revenues from information services could help offset the tremendous costs of converting to digital.<sup>25</sup> Similarly, Busse (at 2) and Pacific FM (at 2) only urge the Commission to require at least one free over-the-air program, make no mention of HDTV, and argue that no further rigid regulatory constraints should apply, but that the market should decide what goes over the channel.

Understandably, a number of commenters react, and in some cases overreact, to this misplaced focus on multichannel SDTV. New World (at 11-15) sees excessive flexibility as one of the biggest threats to the success of ATV, noting that even multichannel TV delivery will simply not drive the ATV set penetration that broadcasters need to be successful. New World is eager to use excess capacity, but this must not compromise the effectiveness of its core broadcasting business. HBO (at 9-16) takes an even stronger position, opposing flexible use of the channel, saying that *Ashbacker* prohibits awarding broadcasters the channel to use

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the received pictures: probably two high-quality live-action sports events, or up to four non-sports video programs, or as many as six programs originally produced in film.

<sup>24</sup>INTV wants to multiply their capacity without increasing their obligations at all. They want a full 6 MHz, but public interest obligations should only attach to their free over-the-air program service. They grudgingly concede that apparently they'll have to pay spectrum usage fees for subscription services, but they don't like any proposed fee schemes, seeing them all as penalties on success. Their proposals show no intent to offer HDTV and would build in incentives to minimize the amount of free over-the-air TV of any kind. (INTV Comments at 13-18)

<sup>25</sup>One example given by WCFC, that stations near time zone lines could replicate their programming on a different schedule, hardly seems to offer an immense benefit. Other examples, like targeting programming to specific cultural populations, have more merit, but in a multicast SDTV world beg the question of why a single broadcaster rather than multiple program offerors could best achieve these benefits.

as they see fit. "By opening the second channel to uses other than HDTV, the public interest rationale for granting spectrum to these incumbents without a competitive process evaporates."<sup>26</sup> HBO believes that if broadcasters are given full flexibility, they'll relegate HDTV to secondary status, if not write it off entirely.<sup>27</sup> Seniors' Advocate (at 2) also argues that the channel should be used exclusively for free over-the-air TV, saying that to allow subscription TV without opening the opportunity to competitors would violate *Ashbacker*. Motorola (at 11) argues that any ancillary information or interactive services, free or subscription based -- should be substantially related to the broadcast video content. Alternate camera angles and statistics should be permitted, but paging and other mobile radio services should not. Similarly, PCIA (at 7-9) believes that any flexibility extending beyond mere conversion to ATV would require auctions which would destroy the smooth transition to ATV. NYNEX (at 7) argues that ancillary services should only be permitted within broadcast services on a noninterfering basis or in limited non-operating periods, but that nonbroadcast and subscription services should not be permitted. Ameritech (at 4) urges that the use of ATV spectrum be limited to free over-the-air broadcasting.

A number of other parties urge the Commission to adopt the kind of balanced approach advocated by the Grand Alliance. The Information Technology Industry Council ("ITI") (at 5), Zenith (at 3), the National Consumers League (at 4) and IBEW/IUE (two labor unions) (at 6) endorse flexibility once minimum HDTV requirements are met. Thomson (at 3) and EIA/ATV (at 8) encourage wide latitude for broadcasters to offer supplemental services once upgrading to HDTV has been established as the principal use of the channel. Texas Instruments (at 4-5) urges that SDTV not be precluded, since it may offer an economical service during the transition period, saying that HDTV, SDTV, and ancillary services can and should coexist on the same channel. General Instrument (at 7) argues persuasively that

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<sup>26</sup>Though the backlash is understandable, we believe HBO goes too far in opposing *any* flexible use of the channel. See note 14, *supra*.

<sup>27</sup>Although not enthusiastic about HDTV generally, CATA (at 2) finds it sobering to realize that the practical effect of permitting ATV spectrum to be used for SDTV will be to foreclose the technology of HDTV.

allowing too much flexibility raises *Ashbacher* concerns by changing the primary service provided. They believe that requiring HDTV to be the predominant use avoids this problem; that ancillary services should be allowed, but capacity devoted to these during high-definition broadcasts should not be so large as to degrade HDTV; and that full time use of the channel for multiple SDTV programs by a single broadcaster should not qualify as ATV.

Apart from a minority of broadcasters that is out of step with the broadcaster consensus on this issue, there is a remarkable degree of agreement with the Commission's policy to upgrade the broadcast television infrastructure to HDTV and also to foster the provision of ancillary and supplementary services, including SDTV. The Commission needs to make crystal clear to INTV, Busse, WCFC, Pacific FM, and everyone else that ATV is not pay TV, that pay TV on public spectrum is not in the public interest, and that multicast SDTV with a commitment of only one free standard-definition program is not the deal being offered for the loan of a second channel. Broadcasters are not being force-marched to HDTV, but they do need to decide if they want to take advantage of the opportunity to convert to digital ATV, which means significantly upgrading the technical quality of their service, not offering another outlet for pay television. If they're not interested in the offer, they should stand aside and plan for the orderly phase-out of their antiquated analog NTSC service, while other entrants vie for the opportunity to offer digital ATV/HDTV in the century to come. Just as the Commission "should not . . . force prudent broadcasters to make imprudent expenditures" (Busse Comments at 9), neither should the Commission force imprudent broadcasters to take prudent actions.

## **VII. The Commission should adopt modest simulcast rules.**

In our Comments (at 8-9), we endorsed modest simulcast rules governing the relationship between a broadcaster's NTSC and ATV programs, in order to facilitate both the transition to ATV and the rapid recovery of spectrum at the end of the transition period. For HDTV, we urged the Commission to adopt rules requiring a modest percentage of HDTV

broadcasts to be simulcast on the NTSC channel during the early years, gradually increasing to 100% for the last few years of the transition period. For SDTV, we recommended that throughout the transition period the Commission should require that one of any set of multiplexed SDTV data streams carry the same programming as the NTSC channel.

Broadcasters hold varying views on the need for simulcasting requirements, but the differences do not seem fundamental. The three major networks support simulcasting requirements, demonstrating a real intent to see HDTV succeed. CBS (at 9) supports simulcasting, saying it will expedite the transition, will help ensure against independent programming, and will underscore the point that ATV is not a separate service and that broadcasters do not get a permanent grant of two 6 MHz channels. NBC (at 6) endorses a 50% requirement starting immediately, allowing for some innovative HDTV programming only on ATV to help promote a rapid transition to HDTV. ABC (at 8-10) favors imposing simulcasting at the outset, seeing the availability of a technically upgraded version of precisely the same programming that drives today's ratings as the engine that will drive demand for new digital sets. ABC sees little incentive in the early years to invest in ATV-only free over-the-air programming, and points out that simulcasting does not rule out flexible use of the channel. Golden Orange (at 1) supports a requirement for less than 100% simulcasting.

Public Television (at 17) argues that broadcasters will have strong incentives to simulcast programs in both formats and there is no need to impose rigid simulcasting requirements. NAB (at 4) argues that simulcasting is neither necessary nor conducive to the most rapid ATV transition, saying that the availability of new programs is what may tip the scale towards purchase of a new set. They acknowledge the value in the later years for ensuring against perpetuating independent NTSC programming, but say it's premature to make decisions now. INTV (at 4) views simulcasting as superfluous and possibly counterproductive, claiming that a station saddled with simulcasting would have less



opportunity to broadcast and promote HDTV. Several other parties also oppose simulcasting requirements or urge caution.<sup>28</sup>

General Instrument (at 11) argues that simulcasting will serve the public interest, but it shouldn't be applied too rigidly, and Thomson (at 5) also endorses modest requirements. MAP (at 33) endorses a simulcast requirement and ACM (at 14) demands a 100% requirement or else broadcasters should pay for other uses of the spectrum. New World (at 11-15) strongly advocates a reasonable schedule for phase-in of simulcasting, provided that full-time HDTV simulcasting is achieved at least one year before the NTSC sunset.

In light of these comments, we remain convinced that modest simulcast requirements will promote the Commission's objectives to hasten the transition to ATV and the recapture of valuable spectrum. Contrary to the concerns expressed by NAB, the requirements proposed in our Comments would give broadcasters wide latitude in developing HDTV and other innovative ATV applications early in the transition, but would ensure that separate NTSC programming that could prolong the transition would not be perpetuated. Moreover, it is not too early for the Commission to foresee and guard against the potential problem of independent program streams that would cause viewers to balk at the cessation of NTSC broadcasts.

**VIII. The Commission should establish an early target date for the cessation of NTSC broadcasts, and evaluate it against objective benchmarks.**

At a general level, there is broad agreement among the commenters that the Commission should promote a transition to ATV that is as rapid as possible without disenfranchising NTSC viewers. And even though specific proposals for setting or targeting a

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<sup>28</sup>WCFC (at 6) finds mandatory simulcasting unnecessary and possibly counterproductive. Hitachi America (at 6) sees simulcasting as unnecessary and unwise, saying it's not needed to lower receiver costs and could retard the completion of the transition. EIA/ATV (at 8) encourages the Commission to impose simulcasting requirements only if it later proves necessary. Cohen, Dippell and Everist ("CDE") (at 4), stating that simulcast requirements could disproportionately affect the poor and rural populations, urges the Commission to review and proceed cautiously.